Amendments to the Specification:

On page 1, please delete the present title and first paragraph and add the following new title, headings, and paragraphs:

METHODS AND APPARATUS FOR PROCESSING SEISMIC DATA

CROSS-REFERENCE TO RELATED APPLICATIONS

This application is a 35 U.S.C. § 371 national stage filing from Patent Cooperation Treaty application number PCT/GB03/04364, filed October 7, 2003, which in turn claimed priority from Great Britain patent application number 0308781.4, filed April 16, 2003, from which Applicant claims foreign priority under 35 U.S.C. § 119(a), as well as from United States provisional patent application number 60/416,507, filed October 7, 2002, from which Applicant claims domestic priority under 35 U.S.C. § 119(e), all of which are incorporated herein by reference.

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to processing seismic data, in particular to processing multi-component seismic data. In particular, it relates to processing multi-component seismic data to determine an event in one component that corresponds to an event in another seismic data component.

2. Description of Related Art

On page 4, after the paragraph that begins "These prior art techniques may not" and before the paragraph that begins "The present invention provides", please insert the following heading:

BRIEF SUMMARY OF THE INVENTION

On page 5, after the paragraph that begins "Preferred features of the present invention" and before "Preferred embodiments of the present invention", please insert the following heading:

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

At the top of page 6, before the paragraph that begins "Preferred embodiments of the present invention will now be described in detail", please insert the following heading:

DETAILED DESCRIPTION OF THE INVENTION

Please delete the existing abstract and add the following new title and paragraph at the top of new page 23:

ABSTRACT OF THE DISCLOSURE

A method of processing seismic data comprises identifying the value of a first parameter associated with an event in a first set of seismic data. The value of a second parameter associated with a corresponding event in a second sent of seismic data is then obtained using at least one look-up table. The first parameter may be PP travel time with the first data set being a raw PP data set, and the second parameter may be PS travel time with the second data set being a raw PS data set or reflection depth. The invention makes it possible to identify pairs of corresponding PP and PS events in raw data traces. The look-up table(s) are obtained using an assumed model for the velocity of propagation of acoustic energy within the earth. The results of the method may be used in quality control, or to correct the velocity model.